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**United States Patent** [19]  
**Cham**[11] **Patent Number:** **5,911,698**  
[45] **Date of Patent:** **Jun. 15, 1999**[54] **TREATMENT FOR CARDIOVASCULAR AND RELATED DISEASES**[75] **Inventor:** **Korlin Rouan Cham, Sheldon,**  
**Australia**[73] **Assignee:** **Aruba International Pty. Ltd.,**  
**Queensland, Australia**[21] **Appl. No.:** **08/849,543**[22] **PCT Filed:** **Dec. 22, 1995**[86] **PCT No.:** **PCT/AU95/00875**§ 371 Date: **Jun. 10, 1997**§ 102(e) Date: **Jun. 10, 1997**[87] **PCT Pub. No.:** **WO96/19250****PCT Pub. Date:** **Jun. 27, 1996**[51] **Int. Cl.:** **A61M 35/00**[52] **U.S. Cl.:** **604/4; 210/645; 210/651;**  
**422/44**[58] **Field of Search:** **604/4-6, '85; 210/645,**  
**210/651; 422/44; 530/422, 850**[56] **References Cited****U.S. PATENT DOCUMENTS**

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A method for the removal of cholesterol, triglycerides and other lipids from animal plasma, serum or other suitable blood fractions, as a discontinuous flow system, the method comprising withdrawing blood from a subject, separating the required fraction from the blood and mixing with a solvent mixture which extracts the lipids from the fraction, after which the delipidated fraction is recombined with the blood cells and returned to the subject, wherein the solvent extraction step is carried out separately and remote from the subject. The delipidated fraction is washed with a second solvent before being recombined with the blood cells. To ensure that the delipidated fraction is free from all extraction solvent, the fraction is mixed with an absorbent specific for the solvent that is being removed. The preferred absorbent is a macroporous polymeric bead contained in the pores of a sintered glass or plastic sphere, the being capable of absorbing organic molecules from an aqueous solution. By treating the plasma, serum or other suitable blood fraction of a patient by these methods, the blood rheology of a patient with impaired blood circulation can be improved. Further, a rapid regression of coronary atherosclerosis occurs.

**21 Claims, No Drawings**